

CLAIMS

What is claimed is:

1. A presence detector, comprising:

an optical emitter for emitting optical radiation;

5 an optical detector for detecting a presence of an object based on receiving
said optical radiation; and

a microcontroller for controlling said optical emitter and processing said
optical detector output, such that a range adjustment and range hysteresis
based on said object are provided by software in said microcontroller.

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2. The presence detector of claim 1, wherein said optical emitter, said optical
detector, and said microcontroller are integrated into a cover of a display
terminal, with optical isolation between said optical emitter and optical
detector being provided by said cover.

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3. The presence detector of claim 1, wherein first and second optical windows
are provided for said optical emitter and said optical detector, respectively, to
eliminate optical coupling between said emitter and said optical detector.

4. The presence detector of claim 2, wherein first and second optical windows are provided for said optical emitter and said optical detector, respectively, to eliminate optical coupling between said emitter and said optical detector.

5. The presence detector of claim 2, wherein said optical radiation includes infrared radiation.

6. The presence detector of claim 3, wherein said optical radiation includes infrared radiation.

7. The presence detector of claim 1, wherein said optical detector comprises an optical detection module.

8. A presence detector, comprising:

an optical emitter for emitting optical radiation;

an optical detector module for detecting presence of an object based on receiving said optical radiation; and

a microcontroller for controlling said optical emitter and processing said

optical detector output, such that a range adjustment and range hysteresis based on said object are provided by software in said microcontroller,

wherein said optical emitter, said optical detector, and said microcontroller are integrated into a cover of a display terminal, optical isolation between said emitter and detector being provided by said cover.

9. The presence detector of claim 8, wherein said optical emitter, said optical detector, and said microcontroller are integrated into a cover of a display terminal, with optical isolation between said optical emitter and optical detector being provided by said cover.

5 10. The presence detector of claim 8, wherein first and second optical windows are provided for said optical emitter and said optical detector, respectively, to eliminate optical coupling between said emitter and said optical detector.

10 11. The presence detector of claim 9, wherein first and second optical windows are provided for said optical emitter and said optical detector, respectively, to eliminate optical coupling between said emitter and said optical detector.

12. The presence detector of claim 9, wherein said optical radiation includes infrared radiation.

15 13. The presence detector of claim 10, wherein said optical radiation includes infrared radiation.

14. The presence detector of claim 8, wherein said optical detector comprises an optical detection module.

15. A display terminal, comprising:

an optical emitter for emitting optical radiation;

5 an optical detector for detecting presence of an object based on receiving said optical radiation; and

a microcontroller for controlling said optical emitter and processing said optical detector output, such that a range adjustment and range hysteresis based on said object are provided by software in said microcontroller.

10 16. The display terminal of claim 15, further comprising:

a cover for integrally housing said optical emitter, said optical detector, and said microcontroller.

17. The display terminal of claim 16, wherein said covers optically isolates said optical emitter and said optical detector.

15 18. The display terminal of claim 15, wherein first and second optical windows are provided for said optical emitter and said optical detector, respectively, to eliminate optical coupling between said emitter and said optical detector.

19. The display terminal of claim 15, wherein said optical radiation includes infrared radiation.

20. The display terminal of claim 16, wherein said optical radiation includes infrared radiation.

- 5 21. A chatter-free, infrared emitter-detector, comprising:
- an infrared emitter operable to emit a plurality of digital pulses of infrared radiation directed at an operator;
- an infrared detector operable to sense said infrared radiation after reflection from said operator; and
- 10 a controller operable to cause said infrared detector to emit a first signal upon sensing of a first fraction of said plurality of digital signals,
- said controller being operable to emit a second signal upon sensing of a second fraction of said plurality of digital signals,
- said first fraction being larger than said second fraction.

- 15 22. The emitter-detector according to claim 21, wherein said operator comprises a point-of-sale (POS) operator.

23. The emitter-detector according to claim 22, wherein said first signal comprises a signal representing detection of the presence of said operator.

24. The emitter-detector according to claim 21, wherein said first signal comprises a signal representing a detection of the presence of said operator.

25. The emitter-detector according to claim 21, wherein said second signal comprises a signal representing detection of the absence of said operator.

5 26. An infrared emitter-detector unit comprising:

a panel comprising a surface, two apertures therein extending through said surface, and two cavities, each cavity extending to one of said two apertures, said two cavities being isolated from radiation communication from each other;

10 an infrared emitter disposed within a first one of said two cavities and operable to emit infrared radiation through a first one of said two apertures;

an infrared detector disposed within a second one of said two cavities and operable to receive infrared radiation through a second one of said two apertures; and

15 a pair of infrared-transparent covers each being disposed over one of said two apertures, said covers being separated to prevent transmission of infrared radiation therebetween.

27. The emitter-detector unit according to claim 26, wherein said unit comprises a sealed unit.

28. A method of sensing a presence of an object, comprising:

emitting a plurality of digital pulses of infrared radiation directed at an operator;

sensing said infrared radiation after reflection from said operator;

5 causing a first signal to be emitted upon sensing of a first fraction of said plurality of digital signals; and

emitting a second signal upon sensing of a second fraction of said plurality of digital signals,

said first fraction being larger than said second fraction.

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